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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

1645



In re application of: **Paul Freimuth, et al.**

Serial No.: **10/037,243**

Filed: **January 4, 2002**

For: **Facilitating Protein Folding and Solubility by Use Of Peptide Extensions**

SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENT
Under 37 C.F.R. 1.56 and 37 C.F.R. 1.97

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

As suggested in the Rules of Practice 37 C.F.R. §1.56, 1.97, 1.98 and 1.99, Applicants submit a Supplemental Information Disclosure Statement for the U.S. Patent Application identified above.

**CERTIFICATE OF MAILING (37 CFR 1.8a)**

I hereby certify that this paper (along with any papers referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

6/28/02
Date

Maria Pacella
Maria Pacella, Office of Intellectual Property and Industrial Partnerships

The following references are disclosed:

I. U.S. Patents

| U.S. Patent No. | Issued Date | Inventor(s) | Title |
|---|---|---|---|
| 5,563,046 | 10/8/96 | Mascarenhas, et al. | Fusion Polypeptides and Proteins |
| 5,766,905 | 6/16/98 | Studier, et al. | Cytoplasmic Bacteriophage Display System |
| 6,207,420 | 3/27/01 | Harrison, et al. | Fusion Protein Systems Designed to Increase Soluble Cytoplasmic Expression of Heterologous Proteins in Escherichia Coli |

II. Publications


1) Studier, et al., "Use of Bacteriophage T7 RNA Polymerase to Direct Selective High-Level Expression of Cloned Genes", J. Mol. Biol. 189, 1986, pp. 113-130.

2) Frydman, "Folding of Newly Translated Proteins in Vivo: The Role of Molecular Chaperones", Annu. Rev. Biochem., 70, pp. 603-647, 2001.

3) Tomko, et al., "HCAR and MCAR: The human and mouse cellular receptors for subgroup C adenoviruses and Group B Coxsackieviruses", Proc. Natl. Acad. Sci. USA, Vol. 94, April 1997, pp. 3352-3356.

4) Bergelson, et al., "Isolation of a Common Receptor for Coxsackie B Viruses and Adenoviruses 2 and 5", Science, Vol. 275, February 28, 1997, pp. 1320-1323.

5) Studier, et al., "Use of T7 RNA Polymerase to Direct Expression of Cloned Genes", Methods in Enzymology, Vol. 185, 1990, pp. 60-89.

6) Bewley, et al., "Structural Analysis of the Mechanism of Adenovirus Binding to its Human Cellular Receptor, CAR", Science, Vol. 286, November 19, 1999, pp. 1579-1583.

7) Condron, et al., "Frameshifting in Gene 10 of Bacteriophage T7", Journal of Bacteriology, November 1991, pp. 6998-7003.

8) Condreay, et al., "Nucleotide Sequence and Complementation Studies of the Gene 10 Region of Bacteriophage T3", J. Mol. Biol., 207, 1989, pp. 555-561.

9) Glover, et al., "Hsp104, Hsp70, and Hsp40: A Novel Chaperone System that Rescues Previously Aggregated Proteins", Cell, Vol. 94, July 10, 1998, pp. 73-82.

10) Parsell, et al., "Protein Disaggregation Mediated by Heat-shock Protein Hsp104", Nature, Vol. 372, December 1, 1994, pp. 475-478.

11) Squires, et al., "ClpB is the Escherichia coli Heat Shock Protein F84.1", Journal of Bacteriology, July 1991, pp. 4254-4262.

12) Williams, et al., "Starvation-induced Expression of SspA and SspB: the effects of a null Mutation in sspA on Escherichia coli Protein Synthesis and Survival During Growth and Prolonged Starvation", Molecular Microbiology, 11(6), 1994, pp. 1029-1043.

13) Keiler, et al., "Role of a Peptide Tagging System in Degradation of Proteins Synthesized from Damaged Messenger RNA", Science, Vol. 271, February 16, 1996, pp. 990-993.

14) Tu, et al., "C-terminal Extension of Truncated Recombinant Proteins in Escherichia coli with a 10Sa RNA Decapeptide", Journal of Biological Chemistry, Vol. 270, No. 16, 1995, pp. 9322-9326.

15) Levchenko, et al., "A Specificity-Enhancing Factor for the ClpXP Degradation Machine", Science, Vol. 289, September 29, 2000, pp. 2354-2356.

16) Heath, et al., "The Human A33 Antigen is a Transmembrane Glycoprotein and a Novel Member of the Immunoglobulin Superfamily", Proc. Natl. Acad. Sci. USA, Vol. 94, January 1997, pp. 469-474.

17) Chrétien, et al., "CTX, a Xenopus Thymocyte Receptor, defines a Molecular Family Conserved throughout Vertebrates", Eur. J. Immunol., 28, 1998, pp. 4094-4104.

Copies of the references cited above are listed in PTO Form 1449.

This Information Disclosure Statement is not to be construed as representing that no other information material to the examination of the subject application exists, that a search has been made, or that the information cited constitutes prior art under 35 U.S.C. 102.

Respectfully submitted,

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Date: June 25, 2002

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FORM PTO-1449 (REV. 7-80)

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

*(Use several sheets if necessary)*





| ATTY. DOCKET NO. | SERIAL NO. |
|---|---|
| BSA 01-22 | 10/037,243 |
| APPLICANTS: Paul Freimuth, et al. | |
| FILING DATE 1/4/02 | GROUP |

U.S. PATENT DOCUMENTS

| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB-CLASS | FILING DATE IF APPROPRIATE |
|---|---|---|---|---|---|---|---|
| | AA | 5,563,046 | 10/8/96 | Mascarenhas, et al. | 435 | 69.52 | |
| | AB | 5,766,905 | 6/16/98 | Studier, et al. | 435 | 172.3 | |
| | AC | 6,207,420 | 3/27/01 | Harrison, et al. | 435 | 69.7 | |
| | AD | | | | | | |

FOREIGN PATENT DOCUMENTS

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|---|---|---|---|---|---|---|---|---|
| | AE | | | | | | | |
| | AF | | | | | | | |

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

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| | AG | Studier, et al., "Use of Bacteriophage T7 RNA Polymerase to Direct Selective High-Level Expression of Cloned Genes", J. Mol. Biol. 189, 1986, pp. 113-130. |
| | AH | Frydman, "Folding of Newly Translated Proteins in Vivo: The Role of Molecular Chaperones", Annu. Rev. Biochem., 70, pp. 603-647, 2001. |
| | AI | Tomko, et al., "HCAR and MCAR: The human and mouse cellular receptors for subgroup C adenoviruses and Group B Coxsackieviruses", Proc. Natl. Acad. Sci. USA, Vol. 94, April 1997, pp. 3352-3356. |
| | AJ | Bergelson, et al., "Isolation of a Common Receptor for Coxsackie B Viruses and Adenoviruses 2 and 5", Science, Vol. 275, February 28, 1997, pp. 1320-1323. |
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| | AM | Condron, et al., "Frameshifting in Gene 10 of Bacteriophage T7", Journal of Bacteriology, November 1991, pp. 6998-7003. |
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| | AQ | Squires, et al., "ClpB is the Escherichia coli Heat Shock Protein F84.1", Journal of Bacteriology, July 1991, pp. 4254-4262. |
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| | AV | Heath, et al., "The Human A33 Antigen is a Transmembrane Glycoprotein and a Novel Member of the Immunoglobulin Superfamily", Proc. Natl. Acad. Sci. USA, Vol. 94, January 1997, pp. 469-474. |
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